

Biological Assessment Report

Spring Creek Douglas County, Missouri

September 2006-March 2007

Prepared for:
Missouri Department of Natural Resources
Division of Environmental Quality
Water Protection Program
Water Pollution Control Branch

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TABLE OF CONTENTS

	Page
1.0 Introduction.....	1
1.1 Purpose.....	1
1.2 Objectives	1
1.3 Tasks	1
1.4 Null Hypotheses.....	1
2.0 Methods.....	2
2.1 Study Area and Station Descriptions	2
2.1.1 Land Use Description	2
2.2 Stream Habitat Assessment Project Procedure	4
2.3 Bioassessment	4
2.3.1 Macroinvertebrate Sampling and Analyses	4
2.3.2 Physicochemical Water Sampling and Analyses	4
2.3.3 Discharge	5
3.0 Results.....	5
3.1 Land Use	5
3.2 Stream Habitat Assessment.....	5
3.3 Biological Assessment and Macroinvertebrate Community Analyses	6
3.4 Physicochemical Water Parameters	8
4.0 Discussion	9
5.0 Conclusion	9
6.0 Literature Cited	10

TABLES

Table 1	Descriptive Information for Spring Creek Stations	2
Table 2	Percent Land Cover in the Spring Creek Stations and the Ozark/White EDU.....	2
Table 3	Stream Habitat Assessment Scores and Percentage Comparison for Spring Creek	6
Table 4	Fall 2006 Metric Scores, Biological Support Category, and MSCI Scores	6
Table 5	Spring 2007 Metric Scores, Biological Support Category, and MSCI Scores	6
Table 6	Fall 2006 Macroinvertebrate Summary	7
Table 7	Spring 2007 Macroinvertebrate Summary	7
Table 8	Fall 2006 Physicochemical Water Parameters	8
Table 9	Spring 2007 Physicochemical Water Parameters	8

FIGURES

Figure 1	Spring Creek Sampling Stations for Fall 2006 and Spring 2007	3
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ATTACHMENTS

Appendix A	Invertebrate Database Bench Sheet Report: Spring Creek, Douglas County	
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1.0 Introduction

At the request of the Missouri Department of Natural Resources (**MDNR**), Water Protection Program (**WPP**), the Environmental Services Program (**ESP**), Water Quality Monitoring Section (**WQMS**) conducted a macroinvertebrate bioassessment and habitat study of Spring Creek, Douglas County. The study was conducted in response to concerns about a floodplain gravel mining operation. This survey assessed approximately 2 miles of Spring Creek from the confluence with the North Fork White River upstream to the confluence of Big Spring. The floodplain gravel operation is located approximately 0.5 miles upstream from the confluence with the North Fork White River. Study stations were compared longitudinally and with biological reference streams within the Ozark/White Ecological Drainage Unit (**EDU**).

Gravel mining may be detrimental to macroinvertebrate and fish communities, mainly due to alterations of their habitat. Fine sediments released into the water column during the mining activities redeposit at the site of the mining and downstream (Brown and Lyttle 1992). Fine sediments clog the interstitial voids between the larger substrate particles affecting the presence and composition of macroinvertebrate and fish communities (Smale et al. 1995; Berkman and Rabeni 1987; Murphy et al. 1981) and reduce available habitat (Lenat et al. 1981).

1.1 Purpose

The purpose of the study was to determine if the biological community of Spring Creek is impaired.

1.2 Objectives

- 1) Assess the habitat characteristics of Spring Creek.
- 2) Assess the macroinvertebrate community of Spring Creek.
- 3) Assess the physicochemical characteristics of Spring Creek.

1.3 Tasks

- 1) Conduct a habitat assessment of Spring Creek.
- 2) Conduct a bioassessment of the macroinvertebrate community of Spring Creek.
- 3) Conduct physicochemical monitoring of Spring Creek.

1.4 Null Hypotheses

- 1) Habitat will not differ substantially among Spring Creek stream segments.
- 2) Habitat will not differ between Spring Creek and biocriteria reference streams in the Ozark/White EDU.
- 3) Macroinvertebrate assemblages will not differ substantially among Spring Creek stream segments.
- 4) Macroinvertebrate assemblages will not differ substantially between Spring Creek and biocriteria reference streams in the Ozark/White EDU.

2.0 Methods

Staff of the MDNR, ESP, WQMS conducted this study. Sampling was conducted during the fall of 2006 and the spring of 2007. Fall sampling was conducted on September 18 and 19, 2006 and consisted of macroinvertebrate sampling, habitat assessments, and water quality sampling at three stations on Spring Creek. During the spring, water quality sampling was conducted on March 20, 2007 and macroinvertebrate sampling was conducted on March 21, 2007 at the same stations. Station 3 was sampled as a quality control duplicate during the spring sampling season. The study area, station descriptions, EDUs, and land use are identified. Methods are included for biological assessments, stream habitat assessments, and physicochemical water quality collection

2.1 Study Area and Station Descriptions

The study area included approximately 2 miles of Spring Creek in Douglas County (Figure 1). Three stations were chosen and are described in Table 1. Spring Creek station 1 is downstream of the confluence of Tabor Creek and Spring Creek. This site was accessed from Spring Creek Materials, Inc., just downstream of the facility and is considered the test station. Spring Creek station 2 is downstream of the State Highway 14 Bridge. Spring Creek station 3 is downstream of the confluence of Big Spring (located off County Road 856). Stations 2 and 3 are biological criteria reference sites.

Table 1
Descriptive Information for Spring Creek Stations

Stream-Station Number	Location-Section, Township, Range	Description	County
Spring Creek Station 1	SW ¼ sec. 34, T. 25 N., R. 11 W.	Downstream of Tabor Creek Confluence at Spring Creek Materials, Inc.	Douglas
Spring Creek Station 2	W ½ sec. 34, T. 25 N., R. 11 W.	Downstream of State Hwy 14 Bridge	Douglas
Spring Creek Station 3	W ½ sec. 26, T. 25 N., R. 11 W.	Downstream of Big Spring	Douglas

2.1.1 Land Use Description

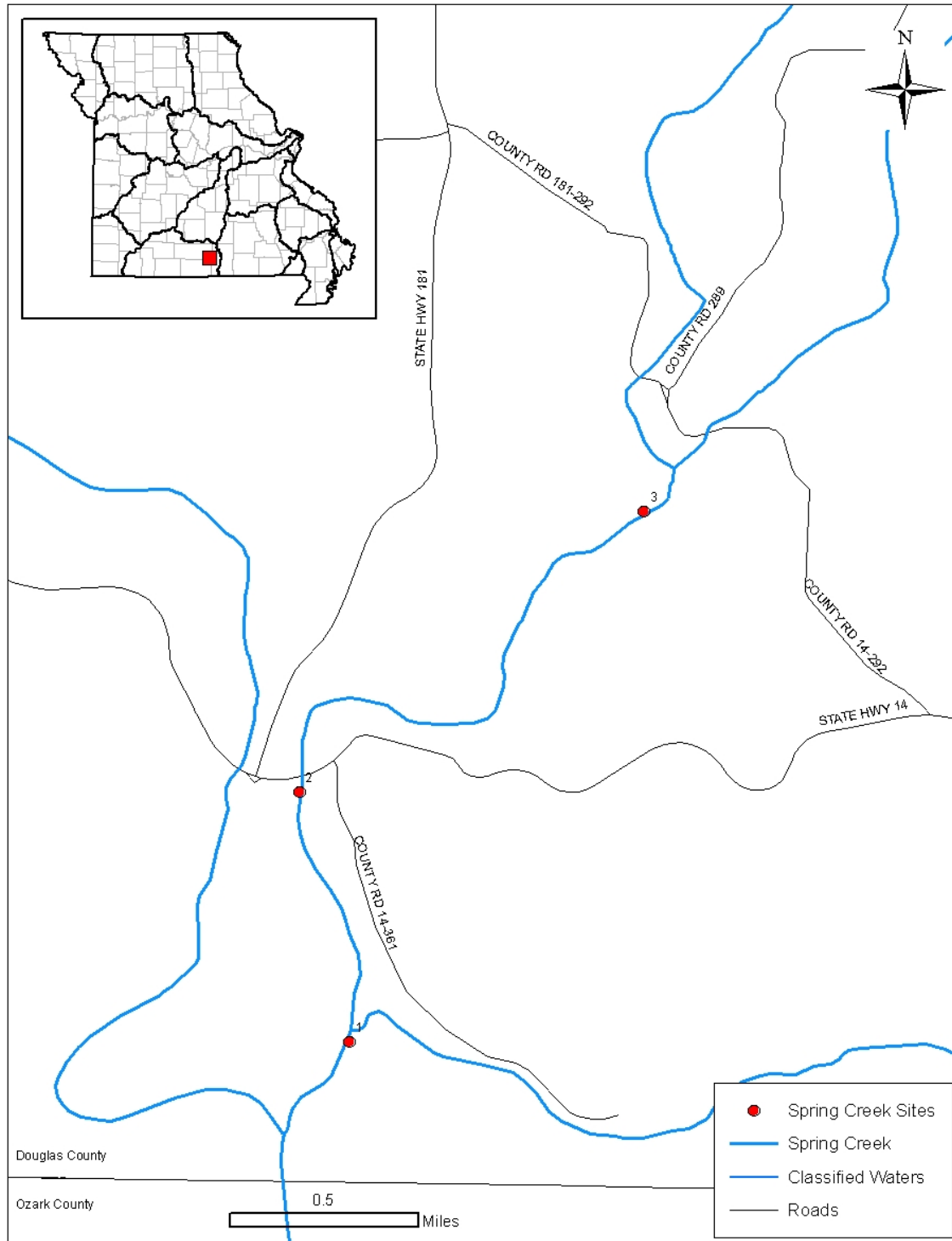
The land use conditions were summarized from land cover Geographic Information System (**GIS**) files. Percent land cover data were derived from Thematic Mapper satellite data collected between 2000 and 2004 and interpreted by the Missouri Resource Assessment Partnership (MoRAP). See Table 2 for a comparison of land use for the EDU and the 14-digit Hydrologic Units (**HU**).

Table 2
Percent Land Cover in the Spring Creek Stations and Ozark/White EDU

Stations	HUC-14	Urban	Crops	Grass	Forest	Wetland	Open-water
Spring Creek	11010006030003	0	0	34	62	0	0
Ozark/White EDU	NA	3	1	37	53	0	0

HUC-14 = 14-digit Hydrologic Unit Code; EDU = Ecological Drainage Unit

Figure 1
Spring Creek Sampling Stations for Fall 2006 and Spring 2007.



2.2 Stream Habitat Assessment Project Procedure

The aquatic community is influenced by the quality of the stream habitat. To assess the quality of stream habitat, a standardized procedure was followed as described in the Stream Habitat Assessment Project Procedure (**SHAPP**) (MDNR 2003a) for riffle/pool prevalent streams. Stream habitat quality is scored for each station and the scores are compared with SHAPP control (reference) station scores. According to the SHAPP guidance, if the score at a test station is $\geq 75\%$ of the mean SHAPP control scores, the stream habitat at the test station is considered to be comparable to the reference (control) stream. Station 3 is a biocriteria reference site and was chosen as the SHAPP control to compare with station 1.

2.3 Bioassessment

2.3.1 Macroinvertebrate Sampling and Analyses

Macroinvertebrate sampling was conducted according to the Semi-quantitative Macroinvertebrate Stream Bioassessment Project Procedure (MDNR 2003b). Spring Creek is considered a riffle/pool dominated system. The three standard habitats of riffle/pool streams were sampled at all locations: flowing water over coarse substrate; non-flowing water over depositional substrate; and rootmat substrate. Macroinvertebrates were sub-sampled in the laboratory and identified to specific taxonomic levels (MDNR 2005a) in order to develop biological criteria metrics (MDNR 2003b).

Macroinvertebrate data were evaluated by comparison with biological criteria for perennial/wadeable streams of the Ozark/White EDU. An EDU is an ecological area in which the aquatic biological communities and stream habitat can be expected to be similar. See the inset in Figure 1 for the general stream location within the Ozark/White EDU.

Biological criteria are calculated separately for the fall (mid-September through mid-October) and spring (mid-March through mid-April) index periods. The Semi-quantitative Macroinvertebrate Stream Bioassessment Project Procedure provides details on the calculation of metrics and scoring of the multi-metric Macroinvertebrate Stream Condition Index (**MSCI**). The four components of the MSCI are: Taxa Richness (**TR**); Ephemeroptera, Plecoptera, and Trichoptera Taxa (**EPTT**); Biotic Index (**BI**); and the Shannon Diversity Index (**SDI**). An MSCI score of 16-20 is considered as full biological sustainability, 10-14 as partial biological sustainability, and 4-8 as non-biological sustainability.

2.3.2 Physicochemical Water Sampling and Analyses

Physicochemical water samples were handled according to the appropriate MDNR, ESP Standard Operating Procedure (**SOP**). Results for physicochemical water parameters were examined by season and station. Water samples were collected according to the SOP MDNR-FSS-001 Required/Recommended Containers, Volumes, Preservatives,

Holding Times, and Special Sampling Considerations (MDNR 2003c). All samples were kept on ice during transport to ESP.

Water quality parameters were measured *in-situ* or collected and returned for analyses at the ESP state environmental laboratory. Temperature (C°), pH, specific conductance (µS), dissolved oxygen (mg/L), and discharge (cubic feet per second-cfs) were measured in the field. Turbidity (NTU) was measured and recorded in the ESP, WQMS biology laboratory. The ESP, Chemical Analysis Section in Jefferson City, Missouri conducted the analyses for ammonia-nitrogen (mg/L), nitrate+nitrite-nitrogen (mg/L), total nitrogen (mg/L), chloride (mg/L), and total phosphorus (mg/L).

Physicochemical water parameters were compared between stations as well as with Missouri's Water Quality Standards (**WQS**) (MDNR 2005b). Interpretation of acceptable limits in the WQS may be dependent on a stream's classification and its beneficial-use as designated in the WQS (MDNR 2005b). Spring Creek is a class "P" stream with the following designated uses: livestock and wildlife watering, protection of water aquatic life and human health fish consumption, secondary contact recreation, category B whole body contact recreation.

2.3.3 Discharge

Stream flow was measured using a Marsh-McBirney Flowmate™ flow meter at each station. Velocity and depth measurements were recorded at each station according to SOP MDNR-WQMS-113 Flow Measurement in Open Channels (MDNR 2003d).

3.0 Results

3.1 Land Use

The land use data in Table 2 provides a comparison between the 14-digit HU for Spring Creek with the Ozark/White EDU. The percent land cover at the Spring Creek stations is comparable to that within the Ozark/White EDU. The Spring Creek watershed lacked urban and cropped areas. Forested areas were the dominant land use followed by grassland. Land use is not expected to negatively impact the biological community.

3.2 Stream Habitat Assessment

Scoring results of the habitat assessment are found in Table 3. If the study station SHAPP score is $\geq 75\%$ of the control station score, the stations are considered to contain comparable habitats. Comparable habitats should be able to support comparable biological communities. Station 1 scored $>75\%$ while station 2 scored at 75%. Although station 2 was borderline, this did not seem to negatively affect the biological community. Both stations are considered comparable to the SHAPP Control.

Table 3
Stream Habitat Assessment Scores and Percentage Comparison for Spring Creek

	Spring Creek #1	Spring Creek #2	Spring Creek #3 (SHAPP Control)
SHAPP Scores	130	112	150
% of Reference	87	75	

3.3 Biological Assessment and Macroinvertebrate Community Analyses

Tables 4 and 5 provide scoring criteria and results for the fall and spring index periods, respectively. MSCI scores are calculated by scoring station metrics against the appropriate biological criteria (BIOREF) scores located in the tables. An MSCI score of 16 or greater, 20 being the highest score possible, results in an assignment of a fully supported biological community. Spring Creek stations 1 and 3 scored an MSCI of 20 during both the fall and spring sampling period. In the fall, station 2 scored an MSCI score of 18 due to the lower BI score for that season. Station 2 scored 20 in the spring. The MSCI scores indicate full biological sustainability for all stations during both seasons. Duplicate samples at Station 3 in spring both scored identical MSCI scores.

Table 4
Fall 2006 Metric Scores, Biological Support Category, and MSCI Scores

Stream and Station Number	Sample No.	TR	EPTT	BI	SDI	MSCI	Support
Spring Creek 1	0602660	94	27	4.60	3.41	20	Full
Spring Creek 2	0602661	96	29	5.06	3.42	18	Full
Spring Creek 3	0602662	101	33	4.80	3.70	20	Full
BIOREF Score=5		>82	>25	<4.92	>2.93	20-16	Full
BIOREF Score=3		82-41	25-12	4.92-7.46	2.93-1.46	14-10	Partial
BIOREF Score=1		<41	<12	>7.46	<1.46	8-4	Non

MSCI Scoring Table (in light gray) developed from BIOREF streams (n = 11).

Table 5
Spring 2007 Metric Scores, Biological Support Category, and MSCI Scores

Stream and Station Number	Sample No.	TR	EPTT	BI	SDI	MSCI	Support
Spring Creek 1	0703213	105	36	4.63	3.77	20	Full
Spring Creek 2	0703214	100	33	3.97	3.66	20	Full
Spring Creek 3a	0703215	108	34	4.91	3.62	20	Full
Spring Creek 3b	0703216	117	34	4.88	3.65	20	Full
BIOREF Score=5		>86	>26	<4.99	>3.14	20-16	Full
BIOREF Score=3		86-43	26-13	4.99-7.50	3.14-1.57	14-10	Partial
BIOREF Score=1		<43	<13	>7.50	<1.57	8-4	Non

MSCI Scoring Table (in light gray) developed from BIOREF streams (n = 9).

The fall 2006 community analysis is shown in Table 6. Chironomidae was the dominant family at stations 1 and 3 while Elmidae was the dominant family at station 2. Elmidae was also the second dominant family at stations 1 and 3. EPT taxa were present at all stations, although Plecoptera taxa were limited particularly at station 1.

Table 6
Fall 2006 Macroinvertebrate Summary

Station	1	2	3
% Ephemeroptera	13.2	19.4	14
% Plecoptera	<0.1	0.4	1.6
% Trichoptera	5	3	3.2
Total EPT %	18.2	22.8	18.8
% Diptera	27.6	13.2	20.5
% Dominant Families			
Chironomidae	26.5	10.8	19
Elmidae	23.7	21.2	15.1
Pleuroceridae	17.1	13.3	14.5
Caenidae	2.7	12.1	3.1
Arachnoidea	1.9	7.5	4.7

The spring 2007 macroinvertebrate community analysis is shown in Table 7. Elmidae and Chironomidae were equally abundant at stations 1 and 2. Chironomidae was the dominant taxa at station 3, followed by Elmidae. EPT taxa were present at all three stations.

Table 7
Spring 2007 Macroinvertebrate Summary

Station	1	2	3a	3b
% Ephemeroptera	23.5	22.1	17.3	16.4
% Plecoptera	2.3	8.0	4.8	6.8
% Trichoptera	8.4	6.9	4.7	4.4
Total EPT %	34.2	37	26.8	27.6
% Diptera	22.5	22.8	27.3	33.5
% Dominant Families				
Elmidae	20	17.7	14.7	13.3
Chironomidae	19.5	17.9	24.7	29.7
Ephemerellidae	9.1	6.5	5.6	4
Pleuroceridae	3.5	10.9	5.3	3.8
Gammaridae	2.7	1.6	13.6	7.5

Leptoxis, a genus of Pleuroceridae, has been collected in Missouri almost exclusively from Spring Creek. Pleuroceridae ranked as the third most dominant taxa collected during the fall sampling period at stations 1 and 3 and the second most dominant taxa at

station 2. Pleuroceridae was collected less often at stations 1 and 3 during the spring, but is considered the third dominant family at station 2.

3.4 Physicochemical Water Parameters

Physicochemical results from the fall 2006 and spring 2007 sampling seasons can be found in Tables 8 and 9. There were no violations of Missouri water quality standards for any parameters. Little variation occurred between sites during the fall or the spring seasons. Physicochemical water quality is not expected to impact the biological community during the study seasons.

Table 8
Fall 2006 Physicochemical Water Parameters

Parameters	Spring Creek Station 1	Spring Creek Station 2	Spring Creek Station 3
Ammonia as N (mg/L)	<0.03	<0.03	<0.03
Chloride (mg/L)	2.04	1.97	2.14
Dissolved Oxygen (mg/L)	9.47	10	7.71
pH (su)	8.20	8	7.70
Specific Conductance (µS/cm)	367	367	373
Temperature (°C)	17	19.0	16
Turbidity (NTU)	<1.0	<1.0	<1.0
Flow (cfs)	26.1	25.4	25.1
Nitrate+Nitrite as N (mg/L)	0.13	0.15	0.14
Total Nitrogen (mg/L)	0.22	0.22	0.22
Total Phosphorus (mg/L)	<0.01	<0.01	<0.01

Table 9
Spring 2007 Physicochemical Water Parameters

Parameters	Spring Creek Station 1	Spring Creek Station 2	Spring Creek Station 3a	Spring Creek Station 3b
Ammonia as N (mg/L)	<0.03	<0.03	0.05	<0.03
Chloride (mg/L)	2.25	2.34	2.18	2.23
Dissolved Oxygen (mg/L)	12.5	10.1	11.4	11.4
pH (su)	7.70	7.3	7.10	7.10
Specific Conductance (µS/cm)	287	298	290	290
Temperature (°C)	13.5	12.0	13.5	13.5
Turbidity (NTU)	<1.0	<1.0	<1.0	<1.0
Flow (cfs)	67.8	63.4	60.5	60.5
Nitrate+Nitrite as N (mg/L)	0.28	0.27	0.22	0.21
Total Nitrogen (mg/L)	0.33	0.33	0.25	0.26
Total Phosphorus (mg/L)	0.02	<0.01	<0.01	<0.01

4.0 Discussion.

The top families, which typically comprised approximately 20% of the samples, were fairly consistent for both seasons. EPT taxa during the fall ranged from 18.2% to 22.8% of the samples for the 3 stations. During the spring total EPT taxa were more prevalent, ranging from 26.8% to 37% of the samples.

Almost all biological samples received the highest possible MSCI score. The only occurrence of a station not obtaining the highest possible MSCI score of 20 was the fall sampling at station 2. However, this station still ranked in the fully supporting range by achieving a score of 18. In reviewing the data, the BI value at this station did not score the optimum value. This could be due to the abundance of Caenidae at this site. Caenidae is a fairly tolerant mayfly family and ranked as the third dominant family at station 2 during the fall. Two species of Caenidae, *C. anceps* and *C. latipennis*, were collected from all 3 stations but occurred in higher abundances at station 2. Both species have a BI value of 7.6

Spring Creek appeared to have a good mix of cobble and gravel in the substrate with little embeddedness. Channel modification was present at stations 1 and 2. Station 1 was located near the floodplain plain gravel mining operation that prompted this study. Parts of the stream at this site had been used as access points to the opposite side of the river. Station 2 was located downstream of a bridge and appeared to be used as a recreation access point to the river. In addition, the floodplain property east of the river at this point had recently been mined for gravel, which was apparent in the landscape and lack of vegetation and riparian zone.

The banks appeared moderately stable throughout stations 1 and 3 with a fair amount of vegetation present on the banks. Station 2 had stable banks to the west with an average riparian zone greater than 18 meters wide. However, the east bank ranked as moderately unstable with very little riparian area, presumably due to the mining that had occurred.

Sediment deposition along the banks and bars within the stream appeared to be higher at station 1 than at stations 2 or 3. However, this bioassessment showed no impact to the macroinvertebrate community.

5.0 Conclusion

Four null hypotheses were stated in the introduction: 1) Habitat will not differ substantially among Spring Creek stream segments; 2) Habitat will not differ between Spring Creek and biocriteria reference streams in the Ozark/White EDU; 3) Macroinvertebrate assemblages will not differ substantially among Spring Creek stream segments; 4) Macroinvertebrate assemblages will not differ substantially between Spring Creek and biocriteria reference streams in the Ozark/White EDU.

Null hypothesis #1 is accepted. Although the habitat score for station 2 was borderline during the fall sampling season, overall, land use and SHAPP scores revealed that the habitat of Spring Creek stations were comparable.

Null hypothesis #2 is accepted. Land use and SHAPP scores revealed that the habitat of Spring Creek stations is comparable to BIOREF stream stations within the Ozark/White EDU.

Null hypothesis #3 is accepted. The macroinvertebrate community of all Spring Creek stations in both seasons exhibited similar dominant taxa and received MSCI scores of fully supporting.

Null hypothesis #4 is accepted. The macroinvertebrate community of all Spring Creek stations in both seasons did not substantially differ from the MSCI, which is calculated from biocriteria reference streams within the same EDU.

The bioassessment for the Spring Creek segment covered by this study suggests no biological impairment due to water quality or habitat parameters when comparing the station downstream of the floodplain plain gravel operation to the stations upstream. All of the MSCI scores, for both the spring and the fall season, are >16 indicating a healthy macroinvertebrate community. The habitat scores for the study stations are considered comparable to the control station. The physicochemical results revealed few definitive trends other than typical seasonal differences.

6.0 Literature Cited

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Appendix A

Invertebrate Database Bench Sheet Report:

Spring Creek, Douglas County

Aquid Invertebrate Database Bench Sheet Report**Spring Ck [0602660], Station #1, Sample Date: 9/18/2006 1:00:00 PM****CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence**

ORDER: TAXA	CS	NF	RM
"HYDRACARINA"			
Acarina	20	4	
AMPHIPODA			
Gammarus			2
Hyaella azteca	1		19
COLEOPTERA			
Dubiraphia		56	28
Ectopria nervosa		1	
Optioservus sandersoni	193	4	1
Psephenus herricki	11	1	
Scirtidae	1		
Stenelmis	5		
DECAPODA			
Orconectes neglectus	3		-99
DIPTERA			
Ablabesmyia		3	5
Cardiocladius	8		
Ceratopogoninae		5	
Chironomus		1	
Cladotanytarsus		36	
Corynoneura			1
Cricotopus bicinctus			1
Cricotopus/Orthocladius	11	1	19
Cryptochironomus		3	
Cryptotendipes		6	
Dicrotendipes		6	
Hemerodromia	2		5
Labrundinia			8
Microtendipes			1
Monodiamesa		1	
Nanocladius		1	6
Pagastiella		1	
Parakiefferiella		3	
Paratanytarsus		1	12
Phaenopsectra	1		
Polypedilum aviceps	1		
Polypedilum halterale grp		1	
Polypedilum illinoense grp	3		6
Polypedilum scalaenum grp		3	
Procladius		3	

Aquid Invertebrate Database Bench Sheet Report**Spring Ck [0602660], Station #1, Sample Date: 9/18/2006 1:00:00 PM****CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence**

ORDER: TAXA	CS	NF	RM
Protoplasa fitchii		-99	
Pseudochironomus		3	
Rheotanytarsus	1		20
Simulium	7		5
Stempellina		2	
Stempellinella		2	1
Sublettea	8		4
Tanytarsus	1	47	44
Thienemanniella	9		1
Thienemannimyia grp.	1	1	10
Tvetenia bavarica grp	2		
EPHEMEROPTERA			
Acentrella	10		
Baetis	24		
Caenis anceps	8		4
Caenis latipennis		10	11
Centroptilum			3
Ephemerella subvaria			1
Hexagenia limbata		1	
Isonychia bicolor	15		16
Leptophlebiidae			1
Pseudocloeon			1
Stenonema mediopunctatum	13		3
Tricorythodes	3	1	35
HEMIPTERA			
Corixidae		2	
Gerridae			1
Trichocorixa		-99	
LEPIDOPTERA			
Parapoynx			-99
LIMNOPHILA			
Ancylidae	6	1	
LUMBRICINA			
Lumbricina	1		
MEGALOPTERA			
Corydalus	1		
Nigronia fasciatus	2		
MESOGASTROPODA			
Elimia	46	3	6
Leptoxis	150		3

Aquid Invertebrate Database Bench Sheet Report**Spring Ck [0602660], Station #1, Sample Date: 9/18/2006 1:00:00 PM****CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence**

ORDER: TAXA	CS	NF	RM
ODONATA			
Argia			5
Basiaeschna janata			-99
Boyeria			1
Calopteryx			6
Enallagma			4
Gomphidae	3	4	
Hagenius brevistylus		1	1
PLECOPTERA			
Agnetina capitata	1		
Pteronarcys pictetii	-99		
TRICHOPTERA			
Ceratopsyche	1		
Ceratopsyche morosa grp	2		
Cheumatopsyche	7		10
Chimarra			1
Helicopsyche	17		1
Hydropsyche	1		
Hydroptila		2	1
Oecetis		1	7
Oxyethira			2
Polycentropodidae			2
Psychomyia	2		
Pycnopsyche			-99
Triaenodes			4
TRICLADIDA			
Planariidae	5		1
TUBIFICIDA			
Tubificidae		7	
VENEROIDEA			
Corbicula	2		
Sphaeriidae	4	38	

Aquid Invertebrate Database Bench Sheet Report**Spring Ck [0602661], Station #2, Sample Date: 9/18/2006 4:15:00 PM****CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence**

ORDER: TAXA	CS	NF	RM
"HYDRACARINA"			
Acarina	12	8	90
AMPHIPODA			
Gammarus			5
Hyaella azteca		9	25
Stygobromus	1		
BRANCHIOBDELLIDA			
Branchiobdellida			1
COLEOPTERA			
Dubiraphia	1	46	9
Ectopria nervosa	3	4	
Helichus lithophilus			2
Optioservus sandersoni	197	10	2
Psephenus herricki	37	4	
Scirtidae			1
Stenelmis	29	15	
DECAPODA			
Orconectes neglectus	1		-99
DIPTERA			
Ablabesmyia		9	4
Ceratopogoninae		7	1
Chrysops		1	
Cladotanytarsus		13	
Corynoneura			1
Cricotopus/Orthocladius	6	2	15
Cryptochironomus		1	
Cryptotendipes		1	
Dicrotendipes		1	1
Dixella			8
Forcipomyiinae		1	
Hemerodromia	2	2	10
Hexatoma	1		
Labrundinia			4
Micropsectra			2
Nanocladius			1
Natarsia		1	
Paralauterborniella		1	
Paratanytarsus		4	23
Paratendipes		1	
Rheocricotopus			1

Aquid Invertebrate Database Bench Sheet Report**Spring Ck [0602661], Station #2, Sample Date: 9/18/2006 4:15:00 PM****CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence**

ORDER: TAXA	CS	NF	RM
Rheotanytarsus			7
Stempellina			1
Stempellinella	3	5	3
Stenochironomus			1
Stictochironomus		3	
Sublettea	8		
Synorthocladius	1		
Tanytarsus		16	6
Thienemanniella	1		1
Thienemannimyia grp.	1	2	6
Tipula	1		
Tvetenia bavarica grp	1		
undescribed Empididae			1
EPHEMEROPTERA			
Anthopotamus		1	
Baetis	28		
Caenis anceps	30	65	7
Caenis latipennis		69	5
Centroptilum		1	2
Ephemerella subvaria	3		
Eurylophella	4	5	1
Heptageniidae	6		
Hexagenia limbata		1	
Isonychia bicolor	7		
Leptophlebiidae		7	2
Leucrocuta	1		
Stenacron	2		
Stenonema femoratum		2	
Stenonema mediopunctatum	4	1	
Stenonema pulchellum	5		4
Tricorythodes	5		14
LEPIDOPTERA			
Petrophila	1		
LIMNOPHILA			
Ancylidae	1	1	6
Menetus		2	1
LUMBRICINA			
Lumbricina	4	5	
LUMBRICULIDA			
Lumbriculidae	2		
MEGALOPTERA			

Aquid Invertebrate Database Bench Sheet Report**Spring Ck [0602661], Station #2, Sample Date: 9/18/2006 4:15:00 PM****CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence**

ORDER: TAXA	CS	NF	RM
Corydalis	-99		
Nigronia serricornis	-99		1
MESOGASTROPODA			
Elimia	7	14	11
Leptoxis	158	4	
ODONATA			
Argia	3		1
Calopteryx			6
Enallagma			19
Gomphidae	5	17	
Gomphus		-99	1
Macromia			2
Stylogomphus albistylus		1	
PLECOPTERA			
Acroneuria	-99		
Agnetina capitata	5		
Pteronarcys pictetii	1		
Zealeuctra	1		
TRICHOPTERA			
Cheumatopsyche	5		
Glossosomatidae	5		
Helicopsyche	22		
Hydroptila			1
Limnephilidae			-99
Oecetis	2	1	2
Polycentropodidae	1		2
Triaenodes			4
TRICLADIDA			
Planariidae	12	1	
TUBIFICIDA			
Ilyodrilus templetoni		1	
Tubificidae		57	2
VENEROIDEA			
Corbicula		66	1

Aquid Invertebrate Database Bench Sheet Report**Spring Ck [0602662], Station #3, Sample Date: 9/19/2006 10:45:00 AM****CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence**

ORDER: TAXA	CS	NF	RM
"HYDRACARINA"			
Acarina	4	13	45
AMPHIPODA			
Gammarus	7	4	
Hyaella azteca		49	12
Stygobromus		2	70
BRANCHIOBDELLIDA			
Branchiobdellida	2		4
COLEOPTERA			
Dubiraphia		35	20
Ectopria nervosa	1	5	2
Optioservus sandersoni	123	2	
Psephenus herricki	19	2	
Stenelmis	17	2	
DECAPODA			
Orconectes neglectus	1	1	-99
Orconectes punctimanus			-99
DIPTERA			
Ablabesmyia		3	3
Anopheles			1
Ceratopogoninae	1	5	1
Chrysops		1	1
Cladotanytarsus		15	
Cricotopus bicinctus	2	1	
Cricotopus/Orthocladius	10	6	7
Cryptochironomus		3	
Dicrotendipes		1	
Hemerodromia			1
Labrundinia		1	1
Micropsectra	14	3	38
Nanocladius			3
Paracladopelma		3	
Parakiefferiella		2	1
Paralauterborniella		1	
Paramerina			4
Paratanytarsus		19	21
Paratendipes		1	
Polypedilum aviceps	6		
Polypedilum convictum	3		
Polypedilum scalaenum grp		2	

Aquid Invertebrate Database Bench Sheet Report**Spring Ck [0602662], Station #3, Sample Date: 9/19/2006 10:45:00 AM****CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence**

ORDER: TAXA	CS	NF	RM
Procladius		1	
Pseudochironomus		1	
Rhabdomastix		-99	1
Rheocricotopus	4		1
Rheotanytarsus	20	2	10
Simulium	5		1
Stempellinella		1	2
Sublettea	7		
Synorthocladius		3	
Tanytarsus	4	8	4
Thienemannimyia grp.	1	2	3
Tipulidae	1		
Tvetenia bavarica grp	1		
Xylotopus			1
EPHEMEROPTERA			
Anthopotamus		2	
Baetis	23		2
Baetisca lacustris		2	
Caenis anceps	20	16	
Caenis latipennis		5	
Centroptilum			3
Choroerpes		1	
Ephemerella subvaria	22		
Eurylophella	1	2	
Isonychia	21		
Leptophlebiidae	1	7	8
Procloeon		1	
Stenacron	1	4	
Stenonema	15		
Stenonema femoratum		3	
Stenonema mediopunctatum	8		
Stenonema pulchellum	2		1
Tricorythodes	2	4	7
ISOPODA			
Caecidotea		13	
LIMNOPHILA			
Ancylidae		1	4
Menetus	2	12	9
Physella			1
LUMBRICINA			
Lumbricina	8	6	

Aquid Invertebrate Database Bench Sheet Report**Spring Ck [0602662], Station #3, Sample Date: 9/19/2006 10:45:00 AM****CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence**

ORDER: TAXA	CS	NF	RM
MEGALOPTERA			
Corydalis	1		
Nigronia fasciatus	1		
Sialis		1	
MESOGASTROPODA			
Elimia	7	22	21
Leptoxis	120		20
ODONATA			
Basiaeschna janata		-99	
Calopteryx			1
Enallagma		1	19
Gomphidae	8	1	1
Gomphus		-99	
Hagenius brevistylus		-99	1
PLECOPTERA			
Agnetina capitata	19		
Pteronarcys pictetii	1		-99
Zealeuctra	2		
TRICHOPTERA			
Cheumatopsyche	9		
Chimarra	1		
Glossosomatidae	1		
Helicopsyche	13		
Hydroptila	3	1	
Hydroptilidae		1	
Micrasema	1		
Mystacides			1
Oxyethira			1
Polycentropus			5
Psychomyia	1		
Triaenodes		2	2
TRICLADIDA			
Planariidae	22	4	1
TUBIFICIDA			
Limnodrilus hoffmeisteri		1	
Tubificidae		33	2
VENEROIDEA			
Sphaeriidae		7	

Aquid Invertebrate Database Bench Sheet Report**Spring Ck [0703213], Station #1, Sample Date: 3/21/2007 10:40:00 AM****CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence**

ORDER: TAXA	CS	NF	RM
"HYDRACARINA"			
Acarina	36	10	5
AMPHIPODA			
Gammarus		15	22
Hyaella azteca		19	40
COLEOPTERA			
Dineutus			1
Dubiraphia	1	25	16
Ectopria nervosa	1		
Helichus lithophilus			1
Optioservus sandersoni	196	2	2
Psephenus herricki	6		
Stenelmis	27		
DECAPODA			
Orconectes neglectus		-99	-99
Orconectes virilis	1	-99	-99
DIPTERA			
Ablabesmyia		13	5
Ceratopogoninae	1	8	4
Clinocera	3		
Corynoneura		2	
Cricotopus/Orthocladius	5	34	34
Cryptochironomus		1	
Dicrotendipes		7	4
Diptera	3		1
Eukiefferiella	4	4	13
Hemerodromia	6	3	3
Labrundinia		7	9
Micropsectra		3	7
Microtendipes		1	
Myxosargus	1		
Nanocladius	1		2
Nilotanytus			1
Parakiefferiella		3	
Paratanytarsus			25
Phaenopsectra		1	
Polypedilum convictum	5		
Polypedilum scalaenum grp		1	
Procladius		1	
Rheocricotopus	2		

Aquid Invertebrate Database Bench Sheet Report**Spring Ck [0703213], Station #1, Sample Date: 3/21/2007 10:40:00 AM****CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence**

ORDER: TAXA	CS	NF	RM
Rheotanytarsus	1		4
Simulium	5	1	
Stempellina		4	2
Stempellinella		2	1
Sublettea	2		1
Sympothastia		5	1
Tabanus	1		
Tanytarsus		8	20
Thienemanniella	2	1	
Thienemannimyia grp.		5	8
Tribelos		1	
EPHEMEROPTERA			
Acentrella	25	1	
Baetis	11	2	4
Caenis anceps	5	6	10
Caenis latipennis	1	9	20
Centroptilum		2	11
Dannella		2	
Ephemerella invaria	82	7	4
Eurylophella	1	2	9
Eurylophella bicolor		9	
Heptageniidae	7		
Isonychia bicolor	5		
Leptophlebia		-99	
Rhithrogena	41		
Serratella deficiens	7		
Stenonema femoratum		1	
Stenonema mediopunctatum	12	1	
Stenonema pulchellum	17		3
LEPIDOPTERA			
Petrophila	-99		
LIMNOPHILA			
Ancylidae	3		1
Gyraulus		1	
LUMBRICINA			
Lumbricina	1		
LUMBRICULIDA			
Lumbriculidae	5		
MEGALOPTERA			
Corydalus	-99		

Aquid Invertebrate Database Bench Sheet Report**Spring Ck [0703213], Station #1, Sample Date: 3/21/2007 10:40:00 AM****CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence**

ORDER: TAXA	CS	NF	RM
Nigronia serricornis	-99		
MESOGASTROPODA			
Elimia	6	7	13
Leptoxis	16	4	2
ODONATA			
Argia			4
Basiaeschna janata		1	-99
Boyeria			2
Calopteryx		2	-99
Enallagma		7	10
Gomphidae	3		1
Hagenius brevistylus		-99	
Helocordulia			1
Macromia			-99
PLECOPTERA			
Agnetina capitata	2		
Amphinemura	2		
Leuctridae	18		2
Perlesta		3	5
Pteronarcys pictetii	-99		
TRICHOPTERA			
Agapetus	33		
Ceratopsyche morosa grp	8		
Cheumatopsyche	14		
Chimarra	3		
Helicopsyche	1	1	
Hydroptila	3	15	5
Lype diversa	2		
Nectopsyche		2	
Oecetis			2
Oxyethira		2	7
Polycentropus		1	4
Psychomyia	6		
Pycnopsyche			2
Setodes	2	1	
TRICLADIDA			
Planariidae	8	6	2
TUBIFICIDA			
Enchytraeidae		2	
Tubificidae	5	7	2
VENEROIDEA			

Aquid Invertebrate Database Bench Sheet Report

Spring Ck [0703213], Station #1, Sample Date: 3/21/2007 10:40:00 AM

CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence

ORDER: TAXA	CS	NF	RM
Corbicula	20	5	
Sphaeriidae	1	4	1

Aquid Invertebrate Database Bench Sheet Report**Spring Ck [0703214], Station #2, Sample Date: 3/21/2007 12:40:00 PM****CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence**

ORDER: TAXA	CS	NF	RM
"HYDRACARINA"			
Acarina	18	6	3
AMPHIPODA			
Gammarus		9	12
Hyaella azteca		14	14
Stygobromus	2		
COLEOPTERA			
Dubiraphia		21	13
Ectopria nervosa		3	
Macronychus glabratus			1
Optioservus sandersoni	116	17	2
Psephenus herricki	8	6	2
Stenelmis	57	1	
DECAPODA			
Orconectes neglectus	-99	-99	-99
Orconectes virilis			-99
DIPTERA			
Ablabesmyia		3	
Ceratopogoninae	1	7	
Cladotanytarsus		3	
Clinocera		3	
Corynoneura		1	
Cricotopus/Orthocladius	27	25	15
Cryptochironomus		1	
Diamesa	1		
Eukiefferiella brevicar grp	36	2	7
Hemerodromia	5	3	5
Labrundinia		1	1
Micropsectra		1	
Pagastiella		1	
Parakiefferiella		9	
Paralauterborniella		1	
Parametriocnemus	9		
Paratanytarsus		4	1
Polypedilum aviceps	2		
Polypedilum convictum	14		2
Procladius		2	
Pseudochironomus		1	
Rheocricotopus	2		1
Rheotanytarsus		1	3

Aquid Invertebrate Database Bench Sheet Report**Spring Ck [0703214], Station #2, Sample Date: 3/21/2007 12:40:00 PM****CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence**

ORDER: TAXA	CS	NF	RM
Simulium	37		1
Stempellinella	2	9	3
Stictochironomus		3	
Sublettea	1	1	2
Sympotthastia			1
Tabanus	1		
Tanytarsus		9	3
Thienemanniella			1
Thienemannimyia grp.	2	3	4
Tribelos		1	
Tvetenia bavarica grp	9		
EPHEMEROPTERA			
Acentrella	30		
Baetis	60		5
Caenis anceps		9	
Caenis latipennis		13	23
Centroptilum		2	1
Ephemerella invaria	42	-99	13
Ephemerella needhami			3
Eurylophella bicolor	5	18	1
Heptageniidae	5		2
Isonychia bicolor	11		2
Paraleptophlebia		1	
Rhithrogena	28		
Serratella deficiens	1	1	
Stenonema femoratum		-99	
Stenonema mediopunctatum	1		
Stenonema pulchellum	5	1	2
ISOPODA			
Caecidotea (Blind & Unpigmented)		1	
LEPIDOPTERA			
Parapoynx		-99	
LIMNOPHILA			
Ancylidae	1		1
Planorbidae			1
LUMBRICINA			
Lumbricina		1	
LUMBRICULIDA			
Lumbriculidae		5	
MEGALOPTERA			

Aquid Invertebrate Database Bench Sheet Report**Spring Ck [0703214], Station #2, Sample Date: 3/21/2007 12:40:00 PM****CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence**

ORDER: TAXA	CS	NF	RM
Corydalis	-99		
MESOGASTROPODA			
Elimia	4	3	31
Leptoxis	7	-99	96
ODONATA			
Basiaeschna janata			1
Calopteryx			1
Enallagma			1
Gomphidae	2		3
Gomphus		1	1
Hagenius brevistylus		-99	1
Macromia		-99	
Stylogomphus albistylus		-99	
PLECOPTERA			
Acroneuria	1		
Agnetina capitata		-99	
Amphinemura	6		
Isoperla	1		1
Leuctridae	60	5	6
Perlesta	2		17
Prostoia			1
Pteronarcys pictetii	3		-99
TRICHOPTERA			
Agapetus	41		
Cheumatopsyche	3		
Chimarra	3		
Helicopsyche	8	1	
Hydroptila	7	13	1
Lepidostoma		5	2
Polycentropus		-99	
Pycnopsyche			-99
Triaenodes	1		4
TRICLADIDA			
Planariidae	8		
TUBIFICIDA			
Limnodrilus hoffmeisteri		1	
Tubificidae		4	
VENEROIDEA			
Corbicula	2	10	1

Aquid Invertebrate Database Bench Sheet Report**Spring Ck [0703215], Station #3a, Sample Date: 3/21/2007 3:00:00 PM****CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence**

ORDER: TAXA	CS	NF	RM
"HYDRACARINA"			
Acarina	20	6	2
AMPHIPODA			
Gammarus	59	82	23
Hyaella azteca			36
BRANCHIOBDELLIDA			
Branchiobdellida	1		
COLEOPTERA			
Dubiraphia		17	20
Ectopria nervosa	-99		
Gyrinus			2
Optioservus sandersoni	85	37	2
Psephenus herricki	9	5	1
Stenelmis	14	3	
DECAPODA			
Orconectes longidigitus		-99	
Orconectes neglectus	-99		
DIPTERA			
Ablabesmyia		5	
Ceratopogoninae	1	24	
Cladotanytarsus	2		
Clinocera	1		
Corynoneura	1	1	
Cricotopus/Orthocladius	63	14	33
Cryptochironomus		1	
Diamesa	3	1	
Dicrotendipes		4	1
Eukiefferiella brevicar grp	32	1	2
Hemerodromia	2	1	
Labrundinia			13
Micropsectra	1		
Nilotanypus			2
Pagastiella		2	
Parakiefferiella		2	
Paralauterborniella		2	1
Parametrioctenus	3	1	
Paratanytarsus		1	16
Paratendipes		2	
Phaenopsectra		2	1
Polypedilum convictum	7		

Aquid Invertebrate Database Bench Sheet Report**Spring Ck [0703215], Station #3a, Sample Date: 3/21/2007 3:00:00 PM****CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence**

ORDER: TAXA	CS	NF	RM
Polypedilum fallax grp		1	
Polypedilum illinoense grp		1	1
Polypedilum scalaenum grp		1	
Potthastia		1	
Procladius		3	
Rheocricotopus	2		
Rheotanytarsus			3
Stempellina		1	
Stempellinella		4	1
Stictochironomus		1	
Sublettea	1		1
Sympotthastia	5		
Tabanus	1		
Tanytarsus	3	13	19
Thienemanniella	1		2
Thienemannimyia grp.	1	6	3
Tipula	1		
Tvetenia bavarica grp	3		
EPHEMEROPTERA			
Acentrella	9		
Baetis	12		
Caenis anceps	2	6	2
Caenis latipennis	1	12	11
Centroptilum			6
Ephemera simulans		1	
Ephemerella invaria	40		
Ephemerella subvaria		1	
Eurylophella bicolor	3	19	5
Hexagenia limbata			-99
Isonychia bicolor	5		
Paraleptophlebia	1		
Rhithrogena	35		
Stenacron	1	4	
Stenonema femoratum		5	
Stenonema mediopunctatum	17		
Stenonema pulchellum	10		1
ISOPODA			
Lirceus			2
LIMNOPHILA			
Lymnaeidae		1	
LUMBRICINA			

Aquid Invertebrate Database Bench Sheet Report**Spring Ck [0703215], Station #3a, Sample Date: 3/21/2007 3:00:00 PM****CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence**

ORDER: TAXA	CS	NF	RM
Lumbricina		2	
LUMBRICULIDA			
Lumbriculidae	2	3	
MEGALOPTERA			
Nigronia serricornis	1		
MESOGASTROPODA			
Elimia	6	2	36
Leptoxis	3		17
ODONATA			
Basiaeschna janata			-99
Boyeria			1
Calopteryx			9
Enallagma		1	7
Erythemis			-99
Gomphidae	3		
Gomphus			-99
Hagenius brevistylus		2	1
Helocordulia			-99
Macromia			1
PLECOPTERA			
Acroneuria	1		
Agnetina capitata	8		
Amphinemura	2		
Chloroperlidae	1		
Leuctridae	24	20	
Pteronarcys pictetii	2		
TRICHOPTERA			
Agapetus	11		
Cheumatopsyche	2		
Chimarra	-99		
Helicopsyche	12		4
Hydroptila	6	4	3
Lepidostoma	2		
Mystacides			1
Oecetis	1		1
Polycentropus			1
Pycnopsyche			1
Triaenodes		2	6
TRICLADIDA			
Planariidae	8		1

Aquid Invertebrate Database Bench Sheet Report**Spring Ck [0703215], Station #3a, Sample Date: 3/21/2007 3:00:00 PM****CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence**

ORDER: TAXA	CS	NF	RM
TUBIFICIDA			
Enchytraeidae	1	1	1
Tubificidae		4	6
VENEROIDEA			
Corbicula	2		
Sphaeriidae			3

Aquid Invertebrate Database Bench Sheet Report**Spring Ck [0703216], Station #3b, Sample Date: 3/21/2007 3:00:00 PM****CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence**

ORDER: TAXA	CS	NF	RM
N/A			
Gordiidae		1	
"HYDRACARINA"			
Acarina	10	8	3
AMPHIPODA			
Gammarus	25	57	7
Hyaella azteca	1	2	59
BRANCHIOBDELLIDA			
Branchiobdellida			1
COLEOPTERA			
Ancyronyx variegatus			1
Dubiraphia		15	22
Ectopria nervosa	1		1
Optioservus sandersoni	84	15	2
Paracymus		1	
Psephenus herricki	14	4	1
Stenelmis	13	5	
DECAPODA			
Orconectes neglectus	-99	-99	-99
Orconectes virilis			1
DIPTERA			
Ablabesmyia		3	2
Ceratopogoninae	1	26	
Cladotanytarsus		1	
Clinocera	1		
Clinotanypus		2	3
Corynoneura		1	1
Cricotopus/Orthocladius	68	28	83
Cryptochironomus		2	
Cryptotendipes		2	
Dicrotendipes		1	1
Diptera	1		
Eukiefferiella	2		
Eukiefferiella brevicar grp	32		2
Hemerodromia	5	2	
Heterotrissocladius		1	
Hydrobaenus		2	1
Labrundinia			5
Micropsectra	1	2	4
Microtendipes		1	

Aquid Invertebrate Database Bench Sheet Report**Spring Ck [0703216], Station #3b, Sample Date: 3/21/2007 3:00:00 PM****CS = Coarse; NF = Nonflow; RM = Rootmat; -99 = Presence**

ORDER: TAXA	CS	NF	RM
Nanocladius			1
Pagastiella		3	
Parakiefferiella	1	2	
Paralauterborniella		2	
Parametriocnemus	2	1	
Paratanytarsus		1	6
Paratendipes		2	
Pericoma		1	
Polypedilum aviceps	1		
Polypedilum convictum	4		
Polypedilum fallax grp		1	
Polypedilum illinoense grp	1		
Polypedilum scalaenum grp		5	
Procladius		1	1
Prosimulium	2		
Protoplasa fitchii	-99		
Pseudorthocladius		1	
Rheocricotopus	3		
Simulium	3		
Stempellina		6	
Stempellinella	2	6	3
Stenochironomus			1
Stictochironomus		1	
Sublettea	1		
Sympotthastia			2
Tabanus	1		
Tanytarsus	3	10	4
Thienemanniella	3		1
Thienemannimyia grp.	3	8	7
undescribed Empididae		1	
EPHEMEROPTERA			
Acentrella	10		
Baetis	40		
Caenis anceps	1	8	2
Caenis latipennis		11	2
Centropilum		1	8
Ephemera		-99	
Ephemerella invaria	26	1	1
Ephemerella subvaria	2		
Eurylophella bicolor	2	12	1
Eurylophella enoensis			3

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ORDER: TAXA	CS	NF	RM
Heptageniidae	11		
Isonychia bicolor	3		
Rhithrogena	30		
Stenonema femoratum		1	
Stenonema mediopunctatum	13		
Stenonema pulchellum	5		
LIMNOPHILA			
Menetus			1
Physella		1	
LUMBRICINA			
Lumbricina	1		
LUMBRICULIDA			
Lumbriculidae	1	3	
MEGALOPTERA			
Corydalus	-99		
Nigronia serricornis	1		
MESOGASTROPODA			
Elimia	3	-99	17
Leptoxis	21	-99	4
ODONATA			
Calopteryx			1
Enallagma			1
Gomphidae	1		
Gomphus			-99
Hagenius brevistylus		1	-99
PLECOPTERA			
Agnetina capitata	9		
Amphinemura	1		
Isoperla	-99		
Leuctridae	36	27	3
Perlesta	3		
Pteronarcys pictetii	2		
TRICHOPTERA			
Agapetus	10		
Cheumatopsyche	2		
Chimarra	4		
Helicopsyche	15	1	3
Hydroptila			2
Lepidostoma	2		
Mystacides		1	

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ORDER: TAXA	CS	NF	RM
Ochrotrichia	4		
Oecetis		1	
Polycentropus	2		1
Pycnopsyche			-99
Triaenodes		3	1
TRICLADIDA			
Planariidae	11		3
TUBIFICIDA			
Enchytraeidae			1
Ilyodrilus templetoni		4	3
Limnodrilus hoffmeisteri		6	
Tubificidae		8	2
VENEROIDEA			
Corbicula	1		
Sphaeriidae	2	4	1